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THE

TREATMENT AND EDUCATION

OF

MENTALLY FEEBLE CHILDREN

BY

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PREFACE

An experience of twenty years in the treatment of cases of mental deficiency has induced me to summarise and publish my observations upon them; these are now offered to the medical profession, in the hope that they may be found useful.

FLETCHER BEACH

64 Welbeck Street,
Cavendish Square
March 1895

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THE TREATMENT AND EDUCATION OF MENTALLY FEEBLE CHILDREN.

In considering this subject, we should bear in mind that there are usually bodily imperfections associated with the mental deficiency, and that unless the physical condition of the child is improved, no amelioration of the mental state can be expected. We should therefore, in the first place, use every effort to strengthen the body and alleviate its defects, and then undertake the moral and intellectual training.

Before proceeding to describe the treatment, it will be convenient to mention some of the deficiencies which are met with in these cases. Common sensation

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is usually less acute than in ordinary persons, and children of this class do not suffer pain to the same extent as those who are sane. Instances have been known in which the extraction of a tooth seemed to cause little inconvenience, and patients occasionally pull out their hair when annoyed. The senses of smell and taste are more or less defective or perverted, and the sense of touch is also imperfect. There is a deficiency in the power of following moving objects with the eyes, which sometimes remain fixed, or wander restlessly—conditions not due to blindness, but to non-perception, owing to want of development of the visual centre of the brain. Inability to perceive colour, and to acquire notions of form, size, extent, distance, and relief, exists from the same cause; colour blindness, however, is found by experiment to be not more frequent than in the general community. Obliquity of the orbits is occasionally found, and sometimes nystag-

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mus or strabismus. The ears are often large, implanted far back, and the lobules wanting or adherent; the sense of hearing is frequently imperfect, not from disease of the internal ear, but from the waves of sound being unable to excite sufficiently the nerves connected with the auditory apparatus. All children of this class are fond of music, and when the sense of hearing is unimpaired, it will be found that many can hum tunes when they cannot speak a word.

Dumbness on the one hand, or a crying or screaming propensity on the other, is often noticed, and in those who can speak, stammering, mumbling of words, slowness and hesitation of speech are sometimes present. Irregular and decayed teeth and a highly arched palate often exist, and add to the vocal difficulty; as do the open mouth and inert lips which are met with in some cases. The proper amount of co-ordination between the muscular efforts of the lips, tongue, throat and

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chest is more or less deficient, and hence the principal cause of the defective voice, which is discordant or badly modulated. The appetite is in many cases voracious, the digestion slow, the stools fetid, and there may be inability to retain the contents of the bladder and the bowels. The circulation is often feeble, the temperature below normal, and the limbs, especially the hands and feet, are frequently cold; in consequence of this, chilblains are commonly present in winter. The power of co-ordination is often deficient in the muscles of the trunk and limbs; hence a clumsy, waddling, shuffling, halting gait is occasionally noticed, and the hands with difficulty perform simple acts. There may be inertness of the body, or, on the other hand, great restlessness, and the muscles of a limb may be paralysed, or present the movements of athetosis. The skull may be elevated, elongated, boat-shaped, or obliquely deformed; occasionally it is much above or below the normal size,

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and sometimes there is want of symmetry of the face.

The defects of the mind are manifest in every degree from a merely infantile condition up to intelligence just below that of ordinary children. Abstract ideas and intellectual perception are dull or wanting, and the notions of foresight, prudence, and self-preservation are deficient or feebly developed. The memory is usually weak, and though the child may remember persons he has seen, yet there will be difficulty in retaining the knowledge imparted, especially as regards simple processes of arithmetic. Ability to compare and to estimate by numbers is, however, seen in the higher classes. The power of attention is defective or often absent, as are the faculties requiring exercise of the will. The gift of imitation is strongly developed, but the firmness of purpose required in the struggle for existence is not present, and the judgment cannot be depended upon. Ideas

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of right and wrong, and the duties to one's neighbour are absent in untrained cases. Obedience is difficult, from deficiency of the will or want of attention. The emotions are passive or easily excited, so that anger and obstinacy are the results of want of training. The affections are usually well developed, and are often the groundwork on which the training depends. As a rule, these children are cheerful and good-tempered, and when capable of employment, lead a happy and easy life.

These physical and mental defects are not all found in one child, but have been collected by the author from a large number of cases which have come under his observation. In the higher types there is no great bodily defect; the children can walk and run well, and speak fairly, and as the faculty of attention is better developed in them, they learn with less difficulty than those of a lower class.

Occasionally one meets with cases of

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the cretinoid type; and it will be useful shortly to enumerate the signs which characterise them. They have usually a dolichocephalic head, large in proportion to the size of the body, flat at the top, spread out at the sides, often narrow in front and broad behind. The anterior fontanelle is open sometimes to an advanced age; and the hair, which is sparse, coarse, and sometimes dry like horsehair, is of a brown or black colour. The forehead is low, narrow, and depressed laterally; and the eyelids, of a pale, bluish hue, are swollen and infiltrated with a solid œdema which does not pit on pressure. The subcutaneous tissue of the hands and feet is sometimes similarly affected. The nose is pug-shaped, the cheeks full and flabby, the mouth large, and the lips thick and often slightly apart. The neck is short and thick, and usually there is no sign of a thyroid gland. Well-developed fatty swellings are seen in most cases on each side of

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the neck, and sometimes in the armpits and other regions; occasionally they disappear before death. The abdomen is large, distended, and contains a quantity of subcutaneous fat; frequently there are umbilical and sometimes inguinal herniæ. The arms and legs are short and curved, and the hands and feet in some cases, though small, are broad, thick, blue, and usually dry and scaly. The skin of the body, as well as of the upper and lower extremities, is thick, easily separable from the muscles, whitish in colour, dry and rough, owing to the almost entire absence of perspiration; on the face it is yellow and waxy, giving rise to a sallow colour. The digestion is good, as these patients eat slowly, but there is always constipation, occasionally obstinate in character. The pulse is small and feeble, and the temperature subnormal; hence there is great susceptibility to cold. The voice is rough, hoarse, harsh, or squeaky; the gait clumsy and waddling, and there is

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often much repugnance to making any movement. The general sensation is normal, and the special senses, with the exception of smell and taste, are well developed. Speech is generally limited to a few words, often monosyllabic in character, and consisting of "Yes" and "No." These patients have the power of observation and imitation, and, in a few cases, of attention. They are good-natured, placid in temperament, and fond of those who attend upon them.

The diseases to which feeble-minded patients are liable are of an asthenic type. Phthisis is prevalent among them in some parts of England, especially where the atmosphere is damp and the rainfall heavy; the disease usually runs a rapid course, often unaccompanied by cough or expectoration. Pneumonia of the catarrhal type and bronchitis are frequent, particularly among the Mongolian variety of these cases; while enlarged glands and the tendency to ulcers evidence the pre-

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sence of a scrofulous constitution. Diarrhœa of the watery and fermentative type, and epilepsy are exceedingly common, and disease of the brain and its membranes occasionally occurs. Skin eruptions, in the form of eczema and impetigo, are very often seen, and the weak circulation and presence of chilblains in winter are signs of the low vitality of many of these children. The general tendency in all cases is to physical degeneration.

The treatment consists of:

1. Attention to hygienic conditions.

2. Adaptation of the principles of medicine to the infirmities which exist in this class of patients.

3. Improvement of the physical defects and imperfections.

4. Education and training of the moral and intellectual faculties.

These methods, although apparently different from one another, require to be judiciously combined, so that the

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greatest possible amelioration may be effected.

ATTENTION TO HYGIENIC CONDITIONS.—It is necessary to secure for these children a healthy site on gravelly soil, a good water supply, perfect sanitary arrangements, and well-ventilated rooms, capable of being warmed during the winter months. Frequent warm baths are most necessary, in order that the sebaceous and sudoriferous glands and the capillary circulation may be kept in a good working condition.

The diet ought to be plain, but liberal, and should consist of a good supply of milk, oatmeal porridge, and, except in epileptic cases, of meat, which should be cut up, or, if there be a difficulty in mastication, passed through a mincing machine. Cocoa and milk, and bread and milk are important additions to the dietary, as are also eggs, vegetables, and sound fruit. Alcohol is rarely required, and should as a rule be dispensed with except in the case of sickness.

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As the circulation is feeble, the clothing should be warm, and flannel worn next the skin. Attention must be paid to the condition of the hands and feet during the winter months, as these children are very liable to chilblains. Mittens in the house and worsted gloves out of doors are required for the hands, while the feet should be encased in strong boots, lined, if necessary, with some material capable of retaining heat. Sleeping socks, when the children are in bed, will also be found useful. Exercise is most essential, and should be stimulated in every possible way. During the summer as much time as possible should be spent out of doors, and games of every kind should be played. During the winter at least two hours daily should be spent in the open air, or, if the weather is unfavourable, dancing and games involving active use of the limbs should be encouraged.

ADAPTATION OF THE PRINCIPLES OF

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MEDICINE TO THE INFIRMITIES WHICH EXIST IN THIS CLASS OF PATIENTS.—The phthisical tendency and scrofulous condition must be treated by a liberal diet, and the administration of cod-liver oil, steel wine, and maltine. Pneumonia and bronchitis, diseases frequently met with, should be combated by remedies of a stimulating nature, care being taken to watch attentively the character of the pulse and respiration, and the range of temperature. Milk is the best food in such cases, and is usually taken with avidity. Diarrhœa of a watery character demands astringent remedies, such as catechu, and kino; while the fermentative variety is best treated by small doses of carbolic acid. When the diarrhœa is obstinate, milk should be cut off entirely, and strong solutions of pearl barley be given instead. Epilepsy, a frequent complication in these children, is remedied to a great extent by giving bromide of sodium, to which may be added

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small quantities of borax with good results; but it is necessary to persevere with these remedies for long periods. Meat should be excluded from the dietary of children who suffer from this dire complaint, and eggs, bacon, milk, fish, fowl, and sago, tapioca, rice, custard, and other simple puddings be taken instead. The aphthous mouth and spongy gums require the application of strong solutions of chlorate of potash, and the different skin eruptions need appropriate remedies. When chilblains occur, they should be painted with tincture of iodine, and if the skin should break and sores form, resin or zinc ointment should be applied. The faulty habits which are met with in some cases render it almost impossible to keep the skin in good condition; great care is then required on the part of the nurse, and the integument should be hardened by the use of a dusting powder, composed of equal parts of starch and oxide of zinc, or by some spirit lotion. As the circula-

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tion and digestion are generally weak, and the vital power low, the treatment must never be of a depressing nature.

Recently, Professor Lannelongue, of Paris, has advocated craniectomy (the removal of linear strips of the cranium) in cases of microcephaly. He held the theory that in all cases, not only of microcephaly, but of other forms of mental enfeeblement, there was premature ossification of the cranial sutures, and that by performing craniectomy, the brain would be enabled to resist the pressure of the cranium. Dr. Bourneville, in a communication made to the French Academy of Medicine in 1893, shows, however, that premature synostosis of the cranial sutures is an hypothesis not borne out by pathological anatomy, and that it does not exist in cases of mental enfeeblement, whether due to microcephaly or not. He shows that it is quite impossible to relieve the lesions or aid the development of the brain by craniectomy, and that, of eighty-

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two cases in which it has been performed, the results obtained were slight, doubtful, or nil. My own opinion coincides with that of Dr. Bourneville; independently of the fact that microcephaly is not due to premature synostosis of the cranial sutures, I do not see how grave lesions of the brain, which are often present in these cases, can be benefited by craniectomy. The cases that have come under my observation, in which the operation has been performed for microcephaly, have shown little or no improvement, and I agree with Dr. Bourneville's opinion that more good can be done by careful education and training than by removing portions of the cranium.

Far otherwise, however, is it with the treatment that is now in use in cases of the cretinoid type. The history of this treatment, the way in which it came into operation, and the theory which promoted it, are now matters of the past, and this is not the proper place wherein to speak

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of them. Suffice it to say that there are now a large number of cases on record in which it has proved eminently successful. The treatment consists in the administration of portions of the thyroid gland of a sheep, to take the place of the thyroid gland which is absent in the human subject. At first, the gland was transplanted from the animal into the patient's body, but this mode of treatment has now ceased. Subcutaneous injection of a glycerine extract of the gland was next tried, but it was found that administration of the gland by the mouth was equally successful. Finally, an extract was given in the form of a powder, and now tabloids, containing five grains of the powder, are employed. A quarter, half, or one of these may be given daily according to the age of the patient, at the commencement of the treatment; and when a cure has been established, half a tablet, or one per week, is sufficient to keep up a satisfactory state of health. It

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should be clearly understood that the remedy must be administered as long as the patient lives, in order to keep him in a healthy condition,

IMPROVEMENT OF THE PHYSICAL DEFECTS AND IMPERFECTIONS.—The muscles, which are wasted, must be nourished by calling their functions into activity, and for this purpose properly applied exercises, in which the faculties of imitation and attention should be made use of, are required. These exercises will also correct the want of co-ordinating power so often seen, as shown by the entire absence of the ordinary precision of muscular movements. Simple exercises of the head and limbs, or dumb-bell drill, accompanied by music, will be found useful for this purpose, as will the practice of throwing a bag of beans at the pupil, who first puts up his hands to protect himself from it, and afterwards learns to catch it and throw it back. The power of co-ordination is also strengthened by the use of nail boards,

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in which the nails are taken out and put back again; by the employment of squares, triangles, circles, and oblongs made of wood and fitted into corresponding depressions; by threading beads, building bricks, paper plaiting, and many similar lessons. The legs are trained by making the child walk upon or between the steps of a ladder placed upon the ground, and by the use of apparatus to be found in every gymnasium. If there are contractures or paralysis, due to disease of the brain and spinal cord, the general and special nutrition of the affected limbs must be increased by the application of galvanism and massage. Automatic movements, due to the want of the controlling power of the will, must be replaced by others upon certain definite plans. Habits are taught by repetition, and are readily gained if an early commencement be made. The muscular system being strengthened, the hands have less difficulty in performing any simple act, locomotion is improved,

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the eyes wander less restlessly, and the listlessness and inertness to a great extent disappear. On the other hand, the restlessness of the excitable class must be soothed by appropriate remedies, such as the use of music, the singing of simple tunes, an elementary form of drill, and by encouraging the child to make use of his various toys. The calls of nature should be specially attended to, and the patient trained to make use of the chamber and evacuate the bowels at regular intervals.

EDUCATION AND TRAINING OF THE MORAL AND INTELLECTUAL FACULTIES.—The moral treatment should go on side by side with the physical and mental training. Ideas of justice, duty, self-reliance, prudence, forethought, and perseverance have to be inculcated by the teacher, who should also employ all the means in her power to cultivate the faculty of attention. The existence of a Supreme Being, who governs and watches over our

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actions, should be impressed upon them, but religious instruction, illustrated by the parables in the Bible, should be as simple and plain as possible. Obedience must be taught and efforts made to impart good temper and affection. These children have loving dispositions as a rule, and by taking advantage of them, selfishness, obstinacy, and untruthfulness may be checked. There will be some difficulty in obtaining their confidence at first, but the regular duties in the institution, the obedience of others, and the general routine, act so favourably upon mentally feeble children, that parents are often surprised to see so much improvement made in a comparatively short time. It is chiefly in the epileptic patients that outbursts of temper appear, but strict attention to diet, with treatment suitable to the case, and separation from the others for a time, will usually suffice to calm the child.

With respect to the intellectual training,

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we must remember that feeble-minded children have to be taught many ideas and notions which ordinary children pick up for themselves; the latter are also endowed with the full use of their senses, while in the former these are badly developed, and have to be educated. We commence, then, by cultivating the senses, and as the tactile function is the most important, we begin by improving the sense of touch. The exercises before mentioned will conduce to this, as will the handling of substances which are rough, smooth, heavy, light, hard, soft, hot and cold; and the use of materials which are wanted in the daily habits of life. The sense of sight is educated to perceive colour by the aid of papers of various tints, which the child should match, coloured cups and balls which he should pair, afterwards applying this familiarity to objects which are daily seen; form, by the use of the squares, triangles, &c., before alluded to; dimension, by placing pieces of wood of

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various sizes together and pointing out the differences between them; the notion of distance, by separating objects from each other, and then taking measurements from point to point in a room or out of doors. The sense of hearing is trained by teaching the child to discriminate between the various sounds presented to his ear, or by the aid of music produced by a piano, organ, trumpet, or drum. The senses of taste and smell are awakened by a series of experiments with disagreeable or agreeable, odorous or odourless substances, and the qualities of objects are thus ascertained. When the child is familiar with a certain number of them, his eyes should be shut, and the materials presented successively to the tongue and nostrils, which have to discern between them, without the help of touch, sight, or hearing. In every case it is necessary to proceed from the simple to the complex, teaching ideas by the use of concrete forms and not by abstract notions, the lessons not

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being prolonged sufficiently to tire the pupil.

In cases where the lips are inert and atonic, a piece of wood held between them, and exercises in opening and closing the mouth, pressing the lips together, and in performing different movements with the tongue, must precede the teaching of speech. When these organs have been strengthened, as well as in cases in which the conditions above described are absent, the teacher proceeds to instruct the child in the use of the labials, linguals, gutturals, &c. Syllables composed of a consonant and vowel, the former usually preceding the latter, ought to be taught first, and in practice it will be found more easy to cause articulation of repeated syllables than isolated ones.

The senses having been educated and the speech improved, we advance to higher branches of learning, such as the teaching of the alphabet and of reading by word cards, care being taken to present

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the object with the word, and to see that the child knows the exact significance of it. Instruction in writing, with or without dictation, in arithmetic by the aid of the ball frame or bricks, drawing, elementary geography, the idea of weight and the value of money by what is known as the shop lesson, is also given. Whilst the other branches of education are going on, the patients must be taught to dress and undress, to be neat and tidy, and to use the spoon, knife and fork. When good progress has been made, education in sloyd-work, fret-work, carpentering and gardening for the boys, and domestic work and sewing for the girls, will be found useful, alternating the industrial with the purely intellectual training. Varied amusements, both in summer and winter, should be provided, for if the old adage, "all work and no play makes Jack a dull boy," is applicable to the mentally sane, it is infinitely more so in the case of feeble-minded children.

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Some further practical remarks will be found useful. In the first place, the shape of the head and the aspect of the face cannot be relied upon as the only means for prognosis. The brightest-looking children are often the most volatile, and their attention is not easily gained; on the other hand, those who are phlegmatic in temperament and dull-looking will frequently take an interest in their work and make considerable progress.

Secondly, each case needs to be carefully studied and treated; some learn more by ear, others by sight, and the education should be adapted to the requirements of each. In every case, regularity in giving the lessons and great patience on the part of the teacher is absolutely necessary; and she should ever keep in mind the fact that mere parrot knowledge is of no use in the instruction of these pupils.

Thirdly, the children should be removed from home, and placed in a suitable

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institution in which they can be educated and trained. Home instruction, as a rule, is of little use; the poor have no appliances in their homes for it, and in the houses of the rich, unless the parents are specially devoted to their child, and make other objects subservient to his education, his claims are lost sight of, and no attempt at improvement is made. His more intelligent brothers and sisters will not join in his games, and often subject him to so much teasing that the mental condition further deteriorates. If he be removed to an institution, in which he is on the same mental plane as the others in it, the spirit of emulation is aroused, he can join in the amusements and games, and his life becomes joyous and bright.

Lastly, the training, both physical and intellectual, should be commenced early, for the older the patient is when it begins, the less chance there is of ultimate improvement and recovery. Many mothers have been misled by the idea that at

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the age of seven or fourteen there will be an abrupt change from mental enfeeblement to mental brightness. From the nature of the case, we should *à priori* consider this result impossible, and experience teaches that at these ages sudden changes for the better do not occur.

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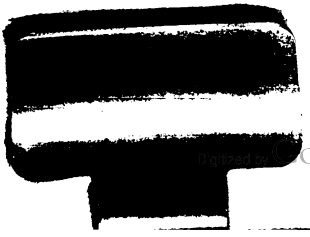

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